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When Are IP Rights Necessary?

Evidence from Innovation in IP's Negative Space

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The law and economics of intellectual property has long rested on a foundational, if implicit, premise: that intellectual property law is best understood by studying how legal rules operate in actual markets for creative work. To understand copyright, for instance, scholars have explored copyright-dependent fields such as music, film, and publishing, seeking to understand how copyright law shapes innovation in these contexts. In other words, IP scholars have generally studied creative fields where IP is present.

The assumption that we best understand a body of legal rules by looking at the fields they directly address is eminently reasonable and seemingly so obvious that, until recently, it was almost never questioned. Yet this way of analyzing the effect of IP is incomplete. IP rules are purposive; the core goal and rationale of IP is to incentivize creative and innovative production. Put differently, IP rights are granted and enforced by the state because they are believed to have significant effects on behavior, spurring innovation that would not occur in their absence. Thought of this way, looking only at the creative fields that IP law addresses is problematic. It leaves open, or at least incomplete, a host of important and fascinating questions. Can innovation flourish in the absence of IP protection? Can market incentives, psychological factors, social

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norms, first-mover advantages, or any number of other causes, including path-dependency or even happenstance, serve as whole or partial substitutes for IP rights? And is it possible that, under some conditions and in some industries, IP protection is counterproductive—that is, it inhibits more innovation than it promotes?

To answer these questions, we must look beyond the space affirmatively covered by IP law. We must look instead at what we call here the “negative space” of IP. By “negative space”² we mean those creative and innovative fields that, for historical, doctrinal, or other reasons, are not addressed by IP law. (Raustiala & Sprigman, 2006). In fashion, cuisine, tattoo artistry, professional magic, financial services, sports, and many other innovative endeavors, IP rights are absent or highly limited. IP as a causal variable either is out of the picture or is marginalized, even if IP rights sometimes apply as a formal matter. As a result, these fields provide an illuminating and sometimes arresting take on the relationship between IP and innovation.

In this chapter we explore the concept of IP’s negative space and the scholarship that has begun to grow around it. This literature barely more than a decade old, but it has shaped in important ways how scholars now think about IP. The negative space literature is predominantly focused on copyright, but there is no reason it cannot apply to at least some industries that are within the domain of patent, which shares copyright’s incentive justification.³ Because the underlying rationales for trademark are so different, insights for trademark law are more limited. But the reverse is not true. One implication of much of the negative space scholarship is that the role of brands and marks in shaping innovation and innovative industries may be especially powerful, precisely in those fields where copyright and patent are absent or weak.

In the remainder of this chapter we first briefly define the concept of negative space. We then explore what has been learned thus far, surveying the growing range of research into “intellectual production without intellectual property.” (Dreyfuss,

² As far as we are aware this term was first used in the IP context in Raustiala and Sprigman’s *The Piracy Paradox: Innovation and Intellectual Property in Fashion Design*.

³ Indeed, a number of works have done so. See, e.g., Rosenblatt, 2013, discussing negative space as applied to the creation of innovative medical techniques.

2010). We conclude with an assessment of this line of inquiry and offer some key questions for future research.

I THE CONCEPT OF NEGATIVE SPACE

IP rights, particularly in the American context, are fundamentally incentive-based. They are predicated on the theory that restraints on copying are necessary to motivate creativity, lest copyists seize the returns from creation and destroy the incentive to create in the first place. The degree to which this theory is true is a question of tremendous importance for both for law and policy. Innovation is a substantial part of any flourishing contemporary economy; it is arguably the key source of growth in advanced economies today. And the belief that innovation rests upon—and indeed requires—strong IP protection is very widely held.

Given this, it is surprising how little empirical evidence supports this theory. The most important task that law and economics research can undertake in the IP field is to shed light on how well IP law's core incentives model holds up in the real world. The study of IP's negative space is part of this endeavor. If healthy innovation is observed in IP's negative space, understanding why is essential.

IP's negative space is perhaps most simply identified by contrasting it with IP's positive space. The positive space encompasses all those creative activities that IP law addresses, such as novels, poems, films, television shows, music, software, painting, and video games.⁴ The negative space of IP, by contrast, encompasses any other creative art, craft, or act that does not enjoy or at least does not ordinarily rely on IP rights against copyists, either because IP is formally inapplicable or because something – perhaps a social norm against IP enforcement, or a legal or economic barrier that discourages resort to formal IP – limits its salience.

Jessica Litman (1994) was characteristically prescient in identifying such areas of creativity as potentially valuable objects of study. In her article *The Exclusive Right to Read*, Litman suggested an interesting counterfactual:

⁴ For the purposes of this chapter, we will broadly define this realm consistent with American IP law, and generally focus on copyright. But of course there are some important variations elsewhere in the world, and we will mention one or two along the way.

Imagine for a moment that some upstart revolutionary proposed that we eliminate all intellectual property protection for fashion design. No longer could a designer secure federal copyright protection for the cut of a dress or the sleeve of a blouse. Unscrupulous mass-marketers could run off thousands of knock-off copies of any designer's evening ensemble, and flood the marketplace with cheap imitations of haute couture...The dynamic American fashion industry would wither, and its most talented designers would forsake clothing design for some more remunerative calling like litigation. And all of us would be forced either to wear last year's garments year in and year out, or to import our clothing from abroad.

Then Litman brought the argument home: "Of course, we don't give copyright protection to fashions . . . We never have."⁵ Despite this, the fashion industry remains creative and economically vibrant: nothing like Litman's dystopian and satirical scenario.

Doctrinally, the reason fashion is unprotected by IP is that it is viewed as functional, and functional items, under IP law, cannot be protected by copyright.⁶ Yet the field features sustained and high levels of creativity and investment in the creation of new works. The ability of the fashion industry to continually produce creative work runs counter, as Litman noted, to the conventional wisdom that IP rights are essential to spur investment in the creation of new works.⁷

⁵ In the United States. Elsewhere in the world, fashion design is often covered by copyright or other IP laws, but the net effect of those laws is very hard to discern, and the American industry is certainly just as vibrant and successful as its major foreign counterparts.

⁶ Patent, by contrast, is intended to cover functional inventions. But the bar for patentability is so high, and the fashion industry's cycle of innovation so fast (partly endogenously; see Raustiala and Sprigman, (2006) for more) that patent is almost never used for apparel outside of a few specialized items like waterproof fabrics. The one small exception, perhaps growing, is the use of design patents. Design patents differ from ordinary utility patents in that they cover ornamental designs. We have seen increased use in areas such as athletic and "athleisure" wear, but very little use in conventional apparel.

⁷ A few years later, Lloyd Weinreb (1998, p. 1235) similarly noted that "It may be difficult to imagine how, in an industry in which copyright is taken for granted, authors and the commercial marketers of their works could survive if copyright were eliminated. But, without more to go on, one may question whether that does not mistake the familiar for the necessary. The fashion industry has thrived despite the absence of protection for designs and the prevalence of 'knock-offs.'"

In years past others too have observed that some areas of creative endeavor—areas such as cuisine, that are arguably just as dynamic and creative as music or motion pictures—were not protected by copyright. (Das, 2000; Jesien, 2007; Pollack, 1991;). For the most part this fact was simply mentioned; occasionally it was bemoaned. Apparel design in particular was the subject of several articles in the 1990s and 2000s that decried the lack of protection for clothing designs and generally proposed some doctrinal fix. (Mencken, 1997; Sanchez-Roig, 1989). This work had value in that it identified, sometimes implicitly, a gap in our understanding regarding how IP operates empirically. Yet this early literature generally failed to take seriously the idea that these innovative and unusual fields might offer important evidence about the strength of IP's incentive justification. IP's negative space was largely treated a curiosity or a problem; not as a window on foundational questions.

What distinguishes the newer line of research we focus on this chapter is precisely this orientation: a concern not only with delineating how hitherto un- or under-explored creative fields operate, but also with examining the larger implications of negative space for our understanding of IP theory, doctrine, and practice. By looking at a sufficient number of low-IP creative areas, we can perhaps begin to understand the various ways in which innovation incentives can succeed or fail. And ultimately, it may be possible to say something deeper about the strength and breadth of IP's incentives justification. While this may not be the goal of all the scholarship we gather here under the rubric of negative space, we think it is important to most—and is the primary reason this research has drawn so much attention.

At a foundational level this line of scholarship draws deeply from the well of ideas associated with Robert Ellickson (1991) and his influential book, *Order Without Law*. Ellickson famously studied the cattle ranchers of Shasta County, California, a community that one would predict would be aware of and would rely upon formal rules of property (cattle stray, and, when they do, they damage fences and crops). He found that the Shasta County ranchers often behaved as if the formal property rules were irrelevant to their disputes. The ranchers instead developed and enforced a set of social norms regarding responsibility for straying cattle.

Some of these norms looked efficient relative to the formal property rules they displaced; some did not. The central point was that particular communities can and

often do achieve order using social norms rather than legal rules. In Ellickson's study, legal rules certainly existed, and were sometimes even employed (or served as a backdrop, casting a shadow over informal norms.) (Mnookin and Kornhauser, 1979). But for the most part, these rules were not significant to the settlement of actual disputes. Much like the relational contracting literature of the 1960s, Ellickson found that the informal norms mattered far more. (Macaulay, 1963).

Ellickson's work, and much of the now-substantial literature on law and social norms that he helped spawn, had nothing directly to do with IP. (Bernstein, 1992; Posner, 2002). Yet it has guided much of the growing negative space scholarship. Scholarship on negative space highlights the limitations of law, the frequent disconnect between formal law and actual social practice, and the importance of careful empirical and even anthropological research into how markets and communities work. It focuses directly on the creative ways communities, industries, and individuals structure relations without relying on legal rules or institutions. Most importantly, negative space scholarship reverses the lens of traditional IP scholarship. Rather than study how IP laws works (or does not), it looks where IP isn't.

II MAPPING THE NEGATIVE SPACE OF IP

What falls within and what falls without IP's domain remains largely unexplained. In this sense one of the most fundamental questions about IP's negative space—what explains its contours—remains ripe for future research. (We say more about this below). While some theories of the scope of IP's negative space have been advanced, empirical support remains, as of this writing, unfortunately scant.⁸ That fundamental questions remain unanswered is not, of course, unusual in IP. Whether, when, or even where IP rules should be tightened or relaxed is similarly unclear. One could say the same about IP's entire incentive justification, though, as we describe below, the recent wave of negative space scholarship has certainly shed some light on this question.

Whatever larger insights have emerged from studies of negative space, this literature has undeniably generated a clutch of fascinating case studies. At a minimum, these studies substantially enhance our understanding of the empirics of innovation

⁸ For efforts see, e.g., Raustiala and Sprigman (2012) and Rosenblatt (2011).

across a strikingly-wide range of human endeavor. Studies of the fashion industry (Barnett, 2005; Barnett, et al., 2010; Hemphill and Suk, 2009; Hemphill and Suk, 2014; Raustiala and Sprigman, 2006; Raustiala and Sprigman, 2009), cuisine (Buccafusco, 2007; Fauchart and von Hippel, 2008), fan fiction (Tushnet, 2009), pornography (Darling, 2014), 19th century U.S. commercial publishing (Spoo, 2013), video games featuring significant user-generated content (Lastowka, 2014), stand-up comedy (Oliar and Sprigman, 2008), roller derby (Fagundes, 2012; Magliocca, 2009),⁹ software (Benkler, 2007; Fisk, 2006; Garon, 2010; Lerner and Tirole, 2005), jam bands (Schultz, 2006), tattoos (Perzanowski, 2013), magic (Loshin, 2010), and the flu vaccine (Kapczynski, forthcoming) detail an extraordinary variety of creative and innovative work, and show the ways in which creative production can flourish with relatively little or no IP protection.¹⁰ Related studies of scientific innovation document communal practices that emphasize sharing, and resist the full potential for propertization of research. (Murray et al., 2009; Strandburg, 2005). And as Eric von Hippel (2005) and others have shown, a lot of innovation is generated by users, in contexts as varied as extreme sports, surgery, library science, and commercial high-tech manufacturing, who work mostly in the absence of IP incentives, and who often share the fruits of their creativity with others. (de Jong and von Hippel, 2009; Gault and von Hippel, 2009).

Relevant markets, incentives, participants, practices, and norms vary enormously across the negative space literature. In many respects the only shared quality is that creative production occurs in an environment that can be characterized as at least low-IP, and sometimes no-IP. Still, some broad features across cases can be discerned, and a certain taxonomic order can be imposed. In what follows, we briefly describe some of this work and highlight its broad themes, commonalities, and contrasts.

Social Norms

Many negative space studies have documented the powerful role social norms play in stimulating innovation and constraining appropriation. In many of these cases IP

⁹ See also Magliocca (2009) discussing industry norms against patenting and arguing that business method patents should not be expanded to cover industries where such norms exist.

¹⁰ See also the collection of essays in *Making and Unmaking Intellectual Property* (Mario Biagioli, Peter Jaszi & Martha Woodmansee, eds.) (University of Chicago 2011).

law is formally relevant but is for disparate reasons is often displaced, in an Ellicksonian fashion, by the social norms of a particular creative community. These social norms are almost exclusively producer norms, and typically reflect a shared sense of professional or artistic identity that allows such norms to develop and become entrenched.¹¹ A large body of work has developed over the past decade analyzing creative industries that feature relatively robust social norms.

For example, an early study by one of us (Sprigman) and Dotan Oliar (2008) on copying among stand-up comedians is in this vein. Technically copyright law covers comedy. The issue then, as now, is that copyright protection only adheres to a specific formulation of a joke or routine, and not to the general premise or structure. In practice this means that a joke can easily be rewritten; hence infringement claims are thus difficult to bring and rarely cost-effective. Oliar and Sprigman describe the development of social norms among comics through two eras: the post-vaudeville era of joke slingers like Henny Youngman, Milton Berle, and Phyllis Diller, and the modern age of personalized comedy which started with people like Lenny Bruce and Mort Sahl and is today represented by comedians such as Sarah Silverman, Amy Schumer, Louis C.K., and Trevor Noah.

The post-vaudeville era was marked by two features. The currency of comedy was the joke (understood as a one-liner, or maybe a simple premise + punchline). And comedians of the day freely appropriated whatever jokes they desired. Jokes were part of a commons that comedians could access. A famed Milton Berle quip summed up this state of affairs: Berle, known as “the Thief of Bad Gags” would come up on stage and say about the previous act, “I laughed so hard I nearly dropped my pencil.” In short, post-vaudeville era comics operated on a norm of open copying.

By the 1960s, however, comedy was undergoing major change. Whereas the first era was largely about the rapid-fire slinging of jokes, the second era featured longer, individualized narratives that were tied to a particular comedic persona. And as the nature of comedy changed, so too did the social norms. Comedians still do not sue one another over copying. Instead, they operate via a set of well-developed and widely-accepted social norms governing appropriation. Oliar and Sprigman describe

¹¹ An interesting exception is in the jam-band community associated with acts such as Phish and the Grateful Dead. (Schultz, 2006).

norms against copying and addressing ownership, co-authorship, and joke transfer. These norms are backed by a surprisingly stiff regime of community-imposed, extra-legal sanctions. For the most part, these sanctions are reputational, but they appear to be effective in policing joke-stealing. On rare occasions, norm-breakers are subject to group boycotts (i.e., cooperative refusal by comedians to work with a perceived joke thief) and even violence. The overall result is a fairly robust, but thoroughly private and extra-legal, system of rules governing the appropriation of creative work. And comedy remains a highly creative and very productive field.

In a similar vein, Aaron Perzanowski (2013) has studied tattoo artists and the ownership of tattoo designs. As with comedy, nominally tattoo designs fall within copyright's positive space. But in practice, they are rarely if ever governed by the laws of IP.¹² Instead, a complex set of social norms operates to govern tattoo artists and their designs. There are, Perzanowski argues, five core norms:

First, tattooers as a rule recognize the autonomy interests of their clients both in the design of custom tattoos and their subsequent display and use. Second, tattooers collectively refrain from reusing custom designs—that is, a tattooer who designs an image for a client will not apply that same image on another client. Third, tattooers discourage the copying of custom designs—that is, a tattooer generally will not apply another tattooer's custom images to a willing client. Fourth, tattooers create and use pre-designed tattoo imagery, or “flash”, with the understanding that it will be freely reproduced. Finally, tattooers generally embrace the copying of works that originate outside of the tattoo industry, such as paintings, photos, or illustrations. In some ways, these norms unintentionally echo familiar concepts from copyright law, but they differ from formal law in important respects as well.

¹² Litigation is rare but not nonexistent. See, e.g., *Whitmill v. Warner Bros. Entertainment*, No. 411-cv-752 (E.D. Mo. Sept. 21, 2013). The case, which settled, involved the appearance of a tattoo look-alike, copied from boxer Mike Tyson, on the face of actor Ed Helms.

As with comics, tattoo artists around the United States are generally familiar with and subscribe to these norms, despite the fact that there is no legal sanction for failing to do so.¹³

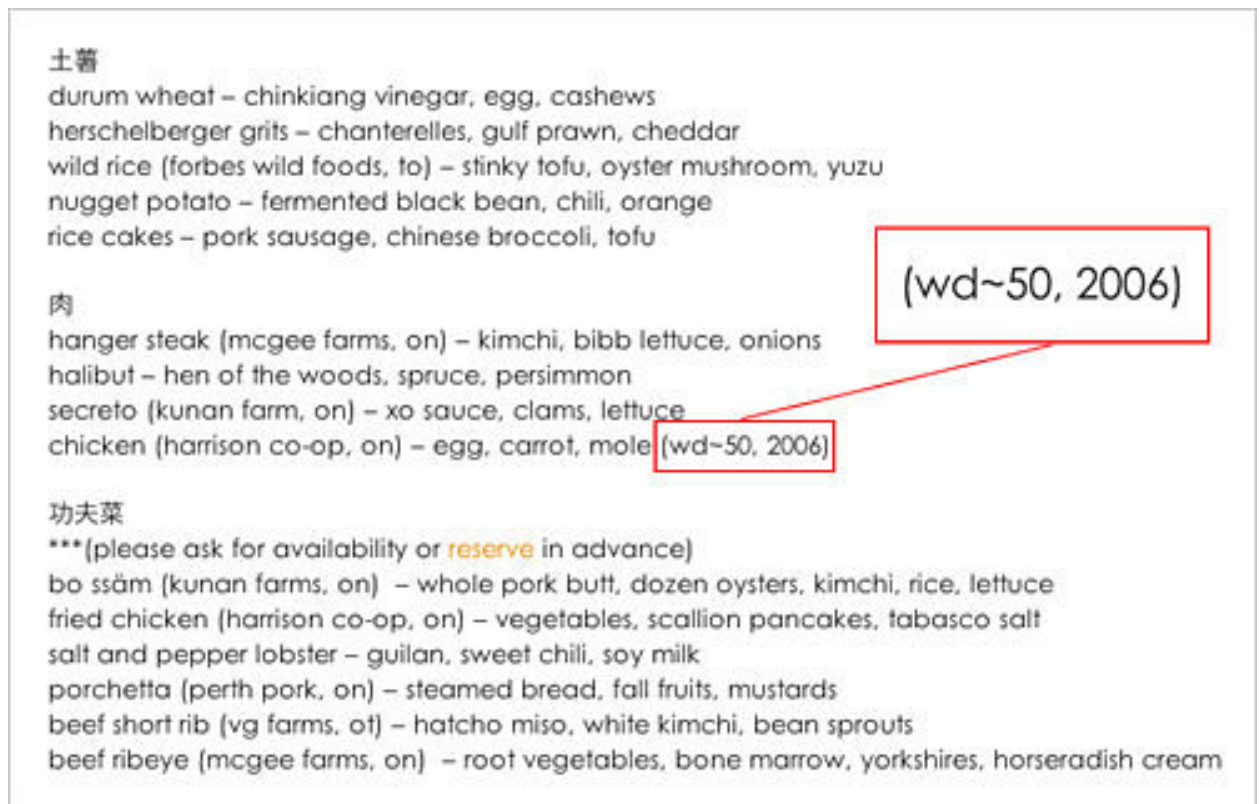
Looking further back in history, in his book *Without Copyrights*, Robert Spoo (2013) tells the fascinating story of the nineteenth-century American publishing industry, which operated in a legal regime where foreign works were largely unprotected by US law and free to be pirated. Conventional copyright theory predicts that the low-IP environment Spoo describes will lead to chaos: a free-for-all that provides no return to foreign authors and publishers. What Spoo finds instead is quite a bit of order without law. He describes a detailed and fluid system of “trade courtesy under which American publishers made what looked like purely gratuitous payments to foreign publishers and foreign authors, and agreed among themselves to a sort of “first-among-pirates” rule governing distribution of foreign works in the U.S. It is by no means certain that the trade courtesy system Spoo describes provided the level of return to foreign authors that the expanded U.S. copyright system eventually would. Nonetheless, trade courtesy provided substantial recompense to foreign authors, illustrating that the alternative to copyright is not unmitigated piracy—nor the collapse of creative work.

High end chefs also exhibit substantial adherence to social norms governing appropriation. Whereas tattoo designs and comedy routines are formally covered by copyright, if in practice rarely addressed by it, cuisine is much like fashion: it is unprotected in its two core features: the recipe and the finished dish. A creative chef who develops an original and delicious recipe can try to keep it from rivals as a trade secret. But since talented chefs can often reverse-engineer a dish they have eaten, the utility of this strategy is limited. Moreover, for many top chefs cookbooks provide substantial income and are part of a larger brand-building effort. And by definition, cookbooks supply recipes for any reader to recreate. In short, recipes are open to appropriation by others.

In practice, however, chefs—at least at the higher levels—have developed a set of norms and practices to constrain appropriation and reward ingenuity. Both Chris

¹³ An interesting question is whether there is a difference in the power or scope of such norms since comics travel widely and tattoo artists are generally local.

Buccafusco (2007) and the team of Emmanuelle Fauchart and Eric von Hippel (2008) have documented these practices and the ways they sustain high levels of culinary innovation. In particular, they note the strong norm of attribution, in which a given dish may be copied freely as long as the originator is noted (sometimes directly on the menu; even more often in a cookbook recipe's notes.) For example, here is famed New York chef David Chang citing directly on his menu the pioneering New York chef Wylie Dufresne of the now-defunct wd-50 restaurant:



Many diners would surely miss the reference; it is a dogwhistle to a special few. But for the intended audience--other chefs, culinary professionals, food fanatics--it is an important signal that Chang, himself a renowned innovator, has copied a terrific dish from Dufresne, and that he acknowledges the innovation it contains. Attribution is the central value here, not exclusivity, and chefs, unlike comedians, are far more comfortable with appropriation—as long as it is acknowledged as such.

In short, social norms have been found to play a powerful, innovation-facilitating role in a host of creative industries in the negative space, from chefs and comedians to roller derby, magicians, and jambands. (Fagundes, 2012; Schultz, 2006). To be sure, many of these industries are small, though not all are. Modest size appears to help create the sort of community of interest and sense of shared professional identity that can originate and perpetuate robust social norms. And it is important to underscore that in most of these studies these norms develop and are sustained among *producers* of content. To the degree content producers lack a shared professional identity norms may tend to break down, or perhaps work only in a local or regional context. Or, as with chefs, norms may segment by category. Truly world-class chefs, for example, are loathe to copy because much of their reputation rests on their innovative capacity. And when they do, as the Chang menu above illustrates, they tend to attribute creations to originators. But further down the food chain, these norms are less apparent and copying becomes much more prevalent. If you have ever eaten a “molten chocolate cake,” you have observed this process in action.

One more important limitation must be stressed. In much of the research into social norms in IP’s negative space the industries involved tend to feature relatively low costs of innovation. Low-cost innovation is important because it is likely to facilitate the effective operation of social norms. If innovation were extremely expensive—as is the case, for example, in pharmaceutical development or blockbuster filmmaking—the power of producer-policed, reputation-based social norms might be wholly insufficient to constrain copying to an appreciable degree. Still, the extant literature suggests, if only by the topics most widely covered, that social norms are more robust and meaningful in creative fields where investment in creation is relatively low.

First-Mover Advantage

Sometimes industries rely on first-mover advantage to create and preserve innovation incentives. This segment of the negative space literature is embryonic; much work remains to be done to investigate the range of creative industries in which first-mover advantage may conceivably play a role in incentivizing or otherwise protecting and spurring innovation. But at very least, the few case studies that we have thus far suggest that the area merits exploration.

The concept of first-mover advantage is often understood to mean the period of de facto exclusivity that an innovator enjoys due to the practical difficulties of copying a particular innovation. In other words, if it takes time for copyists to successfully copy a creation, the creator may have a first-mover advantage—particularly if being first can provide enough of a head start to lock in markets or at least make it hard for latecomers to compete. In some cases, first-mover advantage can offer a sufficient incentive to engage in meaningful innovation, even without the prospect of IP rights to protect that innovation.

This should not be surprising. First-mover advantage is at the core of IP rights: the central feature of IP rights is that they extend any period of de facto exclusivity by making it illegal to copy an innovation for a set period of time. Patent and copyright are not perpetual; anyone can copy the work of another innovator eventually, but the law is meant to be calibrated so that the gain to the first mover (i.e. the creator/inventor) is large enough that it will incentivize continued innovation. Under IP law, the state, in short, creates and enforces a specified period of first-mover advantage.

The interesting question here is how much a creator can benefit from “natural” (that is, nonlegal) barriers to copying, what we will simply refer to as first-mover advantage, as opposed to those barriers created by legal restraints. In previous work we described several examples of first-mover advantage incentivizing significant innovation in the absence of IP. (Raustiala and Sprigman, 2012). There are likely other examples, and future work may seek to identify and assess creative work for which first-mover advantage is an important contributor to innovation incentives. Here we very briefly summarize a few prominent first-mover examples.

Football. American football features substantial innovation, and first-mover advantage, coupled to strong competitive incentives, seems to be a primary driver. New formations and plays can offer meaningful advantages to creative coaches and teams, even though nothing in American law stops other teams from copying those innovations. In fact, some football coaches openly teach other coaches their plays and approach. The precise mechanisms here are not well-established. But it appears that coaches keep innovating despite the prospect of copying because they face short-term incentives to win a game every week and because winning now trumps the possibility of losing over the longer term as (hypothetically) their idea spreads. But there is

another reason that copying does not deter innovation in football. Football formations and plays sometimes depend on a certain kind of team and player, and teams cannot be reconstituted quickly. Given this, an innovative coach can achieve substantial success in the near term with a new formation even if opponents ultimately adopt it later. The window in which the innovating team is the only one using the new system—or at least, using it well—may be large enough to make continued innovation worthwhile.

Computer databases. Databases also exhibit some degree of first-mover advantage. Like an innovative football team deploying a new formation, a successful database can remain competitive due to the need to train users in the new interface. We can explain this with an example from our own professional lives. As law professors, we rely heavily on legal databases such as Westlaw. These databases charge paying customers a substantial fee, and they require extensive training to learn to use well. That training typically begins in law school, and the big database companies allow students to use their products for free as a way to get them to learn—and to become hooked. Once a law student becomes comfortable with Westlaw (or its primary competitor, Lexis-Nexis) he or she is unlikely to shift to another database. The result is that even if we create a new database tomorrow with all the federal and state cases and other materials contained in Westlaw—and lower prices—we will have a hard time competing with the incumbent firms, who know that lawyers who have spent years, if not decades, using one system are unlikely to start over unless the savings are very substantial. That does not mean, of course, that law students who have not yet invested in the learning required to become skilled in the use of a particular database are not up for grabs. But the difficulty of penetrating the existing market substantially raises the costs of entry.

Software. Probably the most common example of first-mover advantage is found in certain software markets that exhibit network effects. Being first—and creating a network of users that all rely on the same program and, as a result, can easily share files or data or documents—can give decisive and durable advantages to the first mover's product. And that can lead to substantial market power and lasting profits.

Only a few industries exhibit such positive network externalities; i.e., benefits that accrue to users from the fact that others are using the same the network. The simplest example of network externalities is a telephone: a single phone is useless, two

phones on a network are nice, but thousands of connected phones are much, much better. Each additional phone on the network makes the other phones more valuable. First-mover advantages can certainly accrue in the absence of positive network externalities. But when these externalities exist, the power of first-mover advantage is even greater. The ability to lock consumers in a network that they do not want to leave makes it easier to defeat new entrants into a market, even those that mimic or improve on an existing product.

Think of the short history of social networks. Perhaps Facebook, so dominant today, will give way to another social network. But Facebook has already seen off a challenge from Google +, which tweaked the Facebook approach and arguably improved it. People were hesitant to shift to Google + because their friends are all on Facebook. It is not impossible to dislodge a leading product even when network externalities exist—Friendster and Myspace, after all, were pathbreaking firms that were ultimately buried by Facebook. But it is more difficult.

In sum, first-mover advantage is an important area of future study for scholarship. The fundamental purpose of copyright and patent is to create first-mover advantage: IP laws regulate second movers so the first mover has ample time to make money. A goal of future research should be to document instances where first-mover advantage exists even when IP law is absent or ineffective, and to determine whether and when first-mover advantage is powerful enough to sustain a meaningful level of innovation.

Products versus Performances

Sometimes industries preserve creative incentives by shifting away from forms of creativity that are easily copied, refocusing on forms of creativity that are more resistant to appropriation. The online pornography industry is instructive of this dynamic. Adult entertainment is currently protected by copyright, though (under American law at least) prior to the Fifth Circuit's 1979 decision in *Mitchell Bros v. Film Group v. Cinema Adult Theater*, its IP status was unclear. 604 F.2d 852, 854–55, 858 (5th Cir.1979) (holding that the Copyright Act neither explicitly nor implicitly prohibits protection of "obscene materials," such as the films at issue there, and rejecting the defendant's affirmative defense of "unclean hands"). Perhaps because pornography for so long resided in the

negative space of IP, the industry is a comparatively light user of IP litigation today and lives with very high rates of free and pirated content.

As Kate Darling (2014) has described, ready access to free online content, most notably through the ubiquitous “porntube” sites,¹⁴ has affected the industry’s output of new content. Darling argues that production in the industry has shifted away from pornographic feature films and toward cheaper scenes (i.e., shorter bits of recorded pornography, not embedded in any larger story). These are designed to be viewed, for free, on the porntube sites, which have entered into deals with many producers to split associated ad revenue. Darling also documents the rise of “cam girls” – women (and men) who perform live over the internet using webcams. Clients pay to watch these performances, and sometimes pay more to essentially direct them. The revenue stream that results is resistant to piracy for much the same reason that live music performances are resistant to piracy – what is valuable is the immediacy of the live (streamed) performance. This is true even when the performance is made over an Internet connection, because a feature of these performances is interactivity – ask (and pay) for the performer to engage in a particular sex act, and you might receive it.

In earlier work, we argued a similar phenomenon explained the continuing creativity of contemporary bartenders, despite the fact that drink recipes, like food recipes, are wholly unprotected from copying:

Bars and high-end cocktails epitomize this phenomenon of performance over narrowly defined creative product. Why else do people pay upward of \$15 for a drink that may cost less than \$2 to make? As a sage bartender once said, you are not really buying a drink, you are renting a bar stool. And the rent varies, as you would expect, with the quality of the experience. In short, the high-end bar is a live performance venue. The drink is the ticket to the show. Anything that is a live performance must be experienced to be appreciated, and that experience can shelter creativity from the pernicious effects of copying. Why? Because copying all the facets of the experience is very difficult and often extremely costly—and sometimes impossible, as many would-be restaurateurs and bar

¹⁴ Websites, such as pornhub.com, redtube.com, and xvideos.com, that offer clips of pornographic content in a format similar to the way non-pornographic content is offered by YouTube.

owners have discovered to their peril. (Raustiala and Sprigman, 2012).

When the performance is a significant element of the total offering, the product can be copied with fewer negative ramifications. And indeed in cocktails, as in cuisine, the level of innovation is quite high despite the absence of any legal barrier to appropriation. As discussed earlier, social norms among producers often play an important role in constraining appropriation, or mitigating its putative negative effects. The emphasis on performance over product attacks the problem of appropriation in a different way: in essence reducing the ability of the consumer to find a true copy, rather than (as with social norms) constraining producers' willingness to copy one another.

The product-performance continuum has been highlighted by work focused on the negative space of IP, but the insights that result are not limited to it. As just noted, the music industry demonstrates the same tendencies. It is undeniable that music sales are down more than 50% from their peak in 1999 of approximately \$14.5 billion – in fact, adjusted for inflation, almost 67% lower. It is also clear that many consumers continue to pirate (or share) music. And yet recorded music continues to thrive. Online music piracy hasn't reduced the quantity of music produced, or indeed its quality, as a series of studies by Joel Waldfogel (2011, 2012) demonstrates. And, importantly, even as the recorded music business has withered, revenues from live music have boomed – in 2014, North American revenues from concert ticket sales grew to approximately \$6.3 billion, rising from less than \$1.5 billion in 1999 – more than a three-fold increase, adjusted for inflation.¹⁵ The music industry is re-configuring to emphasize performance and experience over product – a shift in the industry's output that is provoked by piracy, but that does not appear to have blunted incentives to create new music. Indeed, recorded music is increasingly seen as advertising for live performance, rather than the other way around.¹⁶ This inversion of the traditional relationship renders copying far less harmful, and, arguably, even positive.

¹⁵ <http://www.statista.com/statistics/306065/concert-ticket-sales-revenue-in-north-america/>

¹⁶ E.g., a recent review of the EP "Big Grams" in Rolling Stone argued that even star guest musicians couldn't make it "feel like anything more than an attempt at landing a better festival slot." David Turner, Review of Big Grams, September 25 2015, <http://www.rollingstone.com/music/albumreviews/big-grams-big-grams-20150925>

The centrality of performance and experience helps explain the co-existence of some otherwise-contradictory trends in a number of industries. Consider the willingness of customers to pay ever higher prices for movie tickets in some theaters, even as streaming video in the comfort of one's home grows ever more common. Why pay to go out to a movie theater when you can watch the exact same film on your widescreen high-definition television, thanks to one of the many torrent Web sites that feature illegal content? One answer is that the experience is quite different, and many smart theater owners have been rapidly moving to accentuate that difference as dramatically as they can.

Creativity-Enhancing Copying

Sometimes creative incentives co-exist relatively easily with copying, because copying sets trends that accelerate consumption of creative goods and, in turn, their production. The fashion industry, for example, is rife with copies. They are part of the ecosystem in fashion. Take Forever 21, a multi-billion dollar retailer that is growing in the U.S. and now also in Europe. Forever 21's entire business model is based on appropriating others' designs and selling them, perhaps slightly tweaked, for far less.

In the U.S., this practice is entirely legal; fashion is a paradigmatic negative space industry. Knockoffs are ubiquitous in the industry, and expected if not demanded by consumers. What's striking, however, is how even rampant copying fails to drive down the level of creativity and creative production in the apparel industry. Fashion seems to dramatically violate the fundamental premise of IP rights.

In earlier work, we argued that this result was not due to the role of social norms, first mover advantages, or other factors. Rather, the freedom to copy not only did not destroy the creative impulse; it actually incentivized and accelerated it. (Raustiala and Sprigman, 2006). Fashion is a status-laden good, whose value, for many, is dependent on its scarcity and novelty. When a design is fresh and new it is desirable. But as it spreads into the marketplace, and becomes more common, the early adopters

no longer value it and seek to move on to newer designs. By stimulating demand for new designs, the regime of free appropriation that exists in the apparel world actually spurs innovation in design.

Copying is thus a basic element of the industry's trend-driven business model. This is implicit in the cycle just described; designs are adopted by others once there is some (often very early) evidence of their market appeal. The result, if copying is widespread enough, is a trend, and trends are the centerpiece of the fashion world. Copying first helps to set or identify trends, and then to anchor consumers' expectations about what is in style at a given moment. This benefits the fashion industry by lowering consumers' information costs about what is and is not currently in style and easing the decision about what to wear – which, of course, encourages more apparel purchases by lowering the risk of purchase. And as copying spreads still further, the regime of free appropriation helps to kill the trend that it birthed. As a design becomes very widely copied, its cachet typically falls. Copying is, in short, the engine that drives the fashion cycle faster.

Are there other creative fields that sustain incentives to innovate based on trends? Certainly, trends feature in a number of industries. For example, trends have been identified in the design of new typefaces. (Raustiala and Sprigman, 2006). Likewise, there are trends in the music industry, although it is unclear how much they are connected to either consumers' consumption decisions or incentives to innovate. As in the case of first-mover advantage, more work remains to be done for the negative space literature to offer a more complete understanding of when trend-driven consumption might be relevant to extra-IP incentives to create.

Market Power Unrelated to IP

One hypothesis that has received only limited attention—but we believe should receive more—is that market power unrelated to IP might help to create and maintain innovation incentives in the absence of IP protections. What we mean here is market power in a conventional sense, i.e. that may arise in a market that features weak competition paired with barriers to entry. One plausible example is the financial services industry, which has been the source of many innovations despite the fact that

for much of its history IP protections were either difficult or impossible to obtain or enforce. (Raustiala and Sprigman, 2006).

The financial service industry's creative output has included thousands of varieties of derivatives, bonds, credit and currency swaps, collateralized debt obligations, the Black-Scholes option pricing formula, the formation of index mutual funds, the use of high-yield or "junk" bonds as means of financing mergers and acquisitions, and much more. And for much of the industry's history the most plausible form of legal protection, patent, was unavailable. Nor could innovators rely on trade secrecy law for financial innovations that related to publicly traded securities. Because virtually all the details of a new security become public once the offering is filed with the Securities and Exchange Commission, secrecy is typically impossible.¹⁷

In 1998, however, *State Street Bank and Trust Co. v. Signature Financial Group Inc.* established for the first time that novel methods of doing business were patentable. 149 F.3d 1368 (Fed. Cir. 1998). *State Street* had some important effects for the industry. But whether it transformed the level or type of innovation is unclear. For example, the National Science Foundation, which tracks research and development (R&D) spending, measured no significant increase in financial industry R&D investment in the wake of *State Street*. (Raustiala and Sprigman, 2012). A survey of data from the US Bureau of Labor Statistics also revealed no trend in the financial services industry of hiring more R&D workers, as we might expect if the availability of those patents was making a significant difference in resources devoted to innovation. (Hunt, 2010, p. 322-52).

So how do we explain intellectual production without intellectual property in the financial services industry? Previous research posits a number of interacting reasons. Financial firms may innovate to satisfy the unmet needs of particular customers; to lower transaction costs; to avoid taxes and regulation; to take advantage of rating agencies' rules for assessing the quality of debt; and to take advantage of opportunities offered by new technologies. (Tufano, 2002). And for many of these kinds of innovations, patent protection would be counterproductive, because sharing with rivals is helpful or even necessary to grow markets to the size at which they become efficient and lucrative.

¹⁷ Trade secrecy is more viable for other types of financial investments, such as pricing models, but even in these cases, financial firms often are better off sharing information than keeping it secret.

To understand this point, consider the market for a new type of investment security. In most cases, new securities are likely to be most lucrative if they trade in markets big enough to become standardized and deeply capitalized. In practice, this typically requires a number of firms to enter the market. Patents, however, can act as a barrier to entry. If the innovator patents the new security, potential market participants may hesitate to enter the market for fear that the patent might be used against them. This fear might persist even if the innovator is willing to license the patent to its rivals.¹⁸

The bottom line is that IP rights do not seem to matter much to success in this market or to incentives to innovate. Financial firms that introduce a new and unpatented type of security typically retain a dominant market share for several years, even though rival firms rapidly copy the innovation. (Tufano, 2002).

Why? One hypothesis looks to in-house expertise developed in the process of innovation. Like a football team that has trained and recruited to run a particular offense—and is thereby better able to implement that offense than are its rivals—the innovating firm is more likely (at least until rival firms catch up or hire away key personnel) to have specialized in-house expertise in using the security that will advantage it over rivals.

But perhaps a deeper explanation relates to the market power of large banks. Financial services is dominated by a small number of very large firms. These firms control large shares in particular lines of business. Investment banking is also driven by relationships, and many clients have long-term ties to their bankers that span a variety of product areas. As a result, even if innovations can freely be copied, a large bank can capture a significant share of the return on its investment in innovation simply by virtue of its dominance of the particular business at issue and its enduring client relationships. (Merges, 2003, p. 1-14). Consistent with this hypothesis, the leading innovators in financial services have been the biggest firms. When a small bank innovates, it has a strong incentive to partner with a large bank—the larger institution is able to capture a greater share of the returns from the innovation, which the smaller institution will share. In some instances, banks will be incentivized to sell innovations to the institution that has a leading role in the particular line of business addressed by the innovation. (Battacharyya and Nanda, 2000, p. 1101-1127).

¹⁸ Especially if those rivals worry that, as a consequence of the license fees, they will face higher costs in marketing the security compared to the innovator.

Financial innovation is a complex topic. But the bottom line is relatively simple. Much of the innovation that we see in the financial services industry has been led by firms responding to market incentives, rather than the incentives created by IP rules. As these innovations are introduced, they quickly spread. The prospect that rivals will copy the inventions does not destroy the incentive to create them in the first place, and indeed in some situations copying enhances the value of these innovations by creating a larger market for them. Investment firms locked in a competitive market for clients innovate to serve clients better, and their rivals imitate those innovations to remain competitive.

III IMPLICATIONS & NEW DIRECTIONS

The Negative Space Literature and the Law's Unintended Consequences

Taken together, the studies we have described suggest that the incentives created by IP rights are not as central to innovation as conventional wisdom suggests. They may be sufficient, but they are clearly not necessary. To be sure, there are limitations to extrapolating larger lessons from forays into IP's negative space. As noted, many of the industries studied thus far feature relatively low-cost investments and often fast innovation cycles. Low-IP equilibria also can be unstable, and lead to a variety of non-optimal outcomes, including inefficient non-IP strategies for maintaining competitive advantage and exploitation of knowledge workers. (Dreyfuss, 2010). These are all serious critiques, and they point out the difficulty, at least given current research, of drawing strong normative conclusions from the negative space literature that would lead to concrete recommendations for policy. The negative space literature has nonetheless succeeded, we believe, in displacing what previously was far too automatic an association between innovation incentives and intellectual property rules.

The negative space literature has begun to explore another facet of IP's effect on real-world creativity that could turn out to be very important. The principal justification for IP protection, at least in the U.S., has been closely linked to the quantity of innovation. That is, the dominant question has been: *how much* creative work will be produced by a particular set of monopoly rights? In a world without restraints on copying, IP theory tells us to expect too little innovation – i.e., an amount less than the social optimum. Yet much of the negative space literature calls into question whether

IP serves as the exclusive or even primary determinant of the quantity of innovation. Some of the studies also point to a different and equally interesting effect – an effect on *what kind* of creative work is produced. In other words, this research suggests that legal rules can affect the *quality* of innovations we see, not merely the quantity.¹⁹ We might get certain kinds of creative work versus other kinds depending on whether we have strong levels of IP protection, weak levels, or none at all.

To see this, take the example of stand-up comedy. At a general level, comedians' norms about appropriation and attribution appear to achieve an important end. They restrain copying enough that incentives to invest in the creation of new comedic material remain robust. Yet the history of stand-up comedy doesn't suggest that there was a dearth of comedic production before the norm system took hold in comedy. Lots of jokes were created during the era of the Henny Youngman-type joke-slinger. After the norms system takes hold, what we see is not *more* material; what we see is *different* material. Comics begin to develop material that is more personalized, that is more narrative in nature, that is more individually-tailored to individual comedians, and that arguably represents a higher level of creative investment.

The idea that IP protection may impact the quality as well as the quantity of innovation should not be surprising, but it has profound implications. Seen in this light, IP policy, especially as it relates to copyright, implicates difficult normative questions about what kind of culture we want. In the old stand up community, with its comedic commons that could be freely raided by any participant, the kinds of jokes that were heard were perhaps not amazingly original. But they were easy to remember and recount to others. If you think of comedy as serving as a social lubricant and providing a shared vocabulary, you probably like the one-liners that the post-vaudeville era produced. If, on the other hand, you think of comedy as a platform for political statements or individual artistic exploration – i.e., the kind of deeply original, individualized, diverse, richly narrative and persona-driven comedy we get today -- you probably like the informal regime of norms that accompanies this sort of comedic work and that helped to cement it into place.

The recent history of the music business likewise raises the question whether the primary real-world effect of IP rights is the quantity of output or quality of output. Over

¹⁹ We mean quality in a non-normative way; i.e. not high or low quality but type or kind.

the past 15 years the music industry has involuntarily slipped into low-IP status due to the diffusion of digital technologies. Yet the overall output of recorded music does not seem to have changed. Indeed, if anything the total musical output, and certainly actual consumer access to music, is higher than ever. As the famed musician David Byrne recently wrote, “more of it is being found, made, distributed, and listened to than ever before.” (Byrne, 2015).

Of course, even as more music is being made and consumed, consumers are paying less for it. They are paying less in part because the music they pirate is free. They are paying less in part because streaming services, such as Spotify, have become cheap and popular. And they are paying less in part because the disaggregation of albums into singles – a process that began on the peer-to-peer networks that became widely used for piracy and was then adopted by Apple’s iTunes—has it made possible for consumers to purchase music a la carte. As all this good news (for consumers) has occurred, the industry has shifted its product mix from something that’s easily pirated—recordings—to something that is not: live concerts. The latter is growing, faster than it probably otherwise would if the former were not comparatively vulnerable to piracy.

The music industry’s shift to a more performance-based business model has been of course highly disruptive to the traditional market structure of the music industry. There are winners (the firms that control live performance, such as Live Nation), and losers (the traditional major record companies). And there is the appearance of crisis, not least because the losers have a big megaphone, and, from their narrow perspective, the new reality is a hostile one.

Yet from a broader social perspective, music is thriving despite moving in the direction of a low-IP industry. We can argue about whether the industry’s renewed focus on live performances is a good thing – especially if it comes at the expense of investment in great recordings. Or one might speculate that the rising importance of the live show to musicians’ incomes might subtly shift the sort of recorded music we get – and shift it toward music that is more impactful when performed live. But there is little evidence that recorded music and its live counterpart are opposed in some sort of zero-sum game. Great recordings fill the seats for live performances, and live shows make money. That is the new music industry business model.

Unexplored Negative Space – Industrial Design.

We will end by mentioning a very significant area of potentially fruitful investigation that the negative space literature has of yet not explored. More research is needed in the field of industrial design, a very broad area of creativity encompassing the design of articles – kitchen appliances, hair dryers, bicycles, machine tools, and many more product categories -- that are not “art” in the pure sense but are rather made for practical use. Manufacturers often direct considerable effort into making industrial design articles attractive. And yet the aesthetic content of industrial design is protected only peripherally by U.S. IP law. The application of U.S. copyright to industrial design is sharply limited by the useful articles doctrine, which denies protection to most articles which contain aesthetic content that cannot be separated either physically or “conceptually” from the design’s utility. U.S. design patent law protects only “novel” designs. And U.S. trademark law protects only designs which can be shown to have obtained “secondary meaning” – that is, that are understood by consumers to designate the source of products, rather than merely functioning as an attractive element of product appearance. *Wal-Mart Stores, Inc. v. Samara Bros., Inc.*, 529 U.S. 205 (2000).

In contrast to the U.S., Europe has a legal regime of encompassing protection for many industrial designs, including *sui generis* protections for both registered and unregistered designs. Moreover, in some European countries copyright protection is far broader in its application to industrial design than it is in the U.S.

So with respect to industrial design, we have something of a natural experiment. Encompassing protection in the EU; peripheral protection in the U.S. Does the difference in legal regimes lead to different levels (or types) of innovation across the broad diversity of industrial design fields? Do we see a higher level of design creativity in Europe versus in the United States? Do companies that market designs in both jurisdictions understand the incentives differently in each? Do they behave differently? And what about sequential innovation in these fields? Do second-comers behave differently in Europe versus the United States – i.e., do we see more activity in the U.S. dedicated to improving existing designs that the peripheral IP system leaves unprotected?

Of course, fashion is a form of industrial design, and, as noted above, faces very different legal regimes in the EU (protective) versus the U.S. (permissive of copying). We saw no evidence that the EU-based fashion industry is more innovative than its U.S. counterpart – or indeed, that fashion firms behave differently in the two jurisdictions. Some of the most productive fashion copyists – fast fashion firms like H&M, Zara, and Topshop – are based in Europe. And indeed we see in Europe and the U.S. the same form of copying combined with tweaking that leads to the creation of fashion trends. The industry’s basic innovation practice appears to be the same on both sides of the Atlantic, despite the very different nominal IP rules. In the U.S., IP isn’t relevant. In the EU, it is mostly ignored.

Does the same observation hold for the broad range of other sorts of industrial design? These industries await study. We have no predictions, except that we are sure the questions are worth exploring.

IV CONCLUSION

In his 2014 Nimmer Lecture, Mark Lemley provocatively referred to intellectual property law as “faith-based.” (Lemley, 2015). Given the continued absence of compelling evidence of its efficacy, Lemley argued, proponents of stringent IP protection were essentially operating on belief. And indeed, he suggested, some seemed to have almost given up on the search for evidence itself. Whether Lemley accurately characterized the state of IP theory or not, there is no question that the empirical underpinnings of IP rights and rules remain surprisingly unclear and contested. Moreover, this is true even as IP looms larger in economic and political discourse than ever before, and as innovation and creativity increasingly serve as the critical drivers of contemporary economies.

The recent move to explore IP’s negative space directly confronts the strong belief that protections against copying are a necessary feature of robust innovation. By getting closer to the ground in previously unexplored creative areas, negative space scholarship has done several important things. It has given us valuable and often closely-observed detail about how vibrant, innovative industries and markets work and how they can often achieve innovation—and order—without law. It has demonstrated

that sustained and high levels of intellectual production can take place in the absence of strong and effective intellectual property rights. And in doing both of these things, it has called into question the central tenet of IP theory, even as IP law is increasingly harmonized and strengthened around the world, via new domestic laws as well as the increasingly common and stringent IP provisions found in major trade accords, such as the recent Trans Pacific Partnership.

Negative space scholarship by no means has decided the question of whether IP rights can be justified on more than faith – or, indeed, on the basis of the deontological justifications that have been offered as adjuncts to, or indeed sometimes as replacement for, empirical grounding. The existing research is important and suggestive, but it arguably remains too scant, and too concentrated in small industries that feature, often, what is essentially artisanal production. Yet it has provided—and we have some grounds to believe that it will continue to provide—an unusual and important lens on this most significant of foundational questions about IP rights.

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